

## Weather Bureau Technical News

### ELECTRONIC WEATHER MAP "PLOTTER"

An electronic computer-plotter that mechanically draws a complete weather map in less than three minutes was put into regular Weather Bureau service December 1, 1960, at the National Meteorological Center in Suitland, Md. The "weather plotter", which produces a completed Northern Hemisphere weather map about seven times faster than the former hand-drawing method, is an important step forward in the Weather Bureau's automation of weather data processing, weather analysis, and weather forecasting.

The electronic unit reads weather information supplied in numerical form on magnetic tape, presents the information to a digital-to-analog converter that in turn instructs a plotting board to draw automatically contours on a 30-by-30 inch map of the Northern Hemisphere. The plotter is equipped with a mechanical "hand" which guides an inked stylus on instruction from the analog impulses.

Information fed into the weather plotter is gathered from more than 500 weather stations throughout the Northern Hemisphere, fed into the NMC by teletypewriter, and automatically checked and converted into input data for the Bureau's IBM-7090 high-speed electronic computer. Forecasts, ranging from 12 to 24, 48, and 72 hours ahead, are produced with the computer and recorded on magnetic tape. The tape is then "fed" into the weather plotter for reading, conversion, and drawing of the contours.

During the course of a 24-hour day, 64 weather maps are produced by numerical methods for various altitudes from sea level to 40,000 ft. Each map forecasts air flow patterns for a particular forecast period. The maps are distributed by facsimile throughout the United States for use in local and regional weather forecasting.

### NEW WEATHER FACSIMILE NETWORK

A new high-speed National Weather Facsimile Network, operated by the Weather Bureau over lines leased from Western Union, was established in December 1960. Transmission of weather maps is twice as fast over the new circuit as over the one formerly in use. Thirty-five Northern Hemisphere upper air analyses and forecasts prepared with the aid of the Bureau's electronic computer and drawn by the new electronic weather plotter represent about one-third of all regularly scheduled charts prepared and transmitted by the National Meteorological Center at Suitland, Md. Several

weather maps will be prepared and transmitted by the Weather Bureau's Severe Local Storm Center in Kansas City, Mo. Time has also been reserved in the 24-hour facsimile schedule for the transmission of cloud analyses based on photographs taken by the TIROS II weather satellite. Every 24 hours, more than 100 weather maps are sent over the new facsimile network to about 650 government, military, commercial, and private receiving stations in the contiguous United States and southern Canada.